

Aviation News

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Convair's New Transport: Cutaway drawing of Consolidated Vultee's new Model 240, of which American Airlines has ordered 100 to cost \$18,000,000, shows 40-passenger seating arrangement. Using jet thrust from the exhaust of its two Pratt & Whitney R-2800's, the ship will cruise at 300 mph. and have a maximum speed of 350 mph. or above. Delivery is expected to start early in 1947. The planes will be used for flights up to 1,000 miles. (See Transport)

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CAB Approval of IATA Agreement Due Tomorrow

Favorable decision expected to support carriers' position in forthcoming meeting.....Page 33



The power behind the HEADLINES

Look at the records for speed, range, load and floor efficiency. One engine dominates, one engine makes possible the headlines. One engine has the sheer power, low weight and low fuel consumption to make possible these headlines. It is the Wright Cyclone 18.

Many of the headlines tell of records

with military planes—such as the Boeing B-29, Martin Mari, Consolidated B-32 or Boeing C-97. But now that the Cyclone 18 is fully available for commercial use in Lockheed Constellation and other transports, its power will make new records which will be reflected directly in earnings.

WRIGHT *Aircraft Engines*

AIR POWER FOR A WORLD AT PEACE

Wright Aeronautical Corporation, Paterson, New Jersey, U.S.A. • A Division of Curtiss-Wright

THE AVIATION NEWS

Washington Observer

ARMY DOMINATION—Aviation people are keeping a weather eye on AAF ambitions to have a major finger in the transportation picture. AAF has plumped heavily for cooperation with the air carrier industry, offering research and other facilities, but in plans are being given a wary look-see. This is especially true after CAB Chairman Pogue blasted Gen. Arnold's bid for continuing authority over carriers in his Oklahoma City speech.

DISPERSAL—The end has not been heard of the controversy over dispersal of aircraft plants. The AAF has not yielded, and neither is the industry ready to back down. The Los Angeles attack bomb snap, shown Congressmen recently, is a cogent argument, however, that it is going to require more than conversation to refute.

GERMAN ENGINEERS—Many German aircraft engineers, called upon by Allied missions after V-E Day for technical ideas, asked for transfer to the United States where they were willing to assist in the aviation program against the Japs. They were told by statute, at least, that their aircraft technique was not generally superior and not adaptable to U. S. industry. Nevertheless exceptions were made and several German engineers, especially in the jet field, who obviously had exclusive experience, were recommended for transfers. Whether any were brought over is not ascertainable.

SHOWDOWN—Efforts to break down resistance of the aircraft industry to participation in the Cleveland National Air Show failed, and the industry went on record with Gen. Arnold in no uncertain terms when the General said he'd been told the industry wasn't participating because of his wartime policy against such shows. They made it plain it was their own policy, and a strong one. It seems apparent that Cleveland show backers failed to consult the industry before announcing their plans, counting on persuasion and a long drought to bring in the disloyals. Fact is the plane makers have nothing ready to throw, no personnel or excess funds to devote to a show away.

AIRPORT PROGRAM—The projected airport building program may have many a headache, not the least of which are lawsuits by adjacent property owners who find the roar of motors and propellers and the flight of planes a depressive factor on property values. An appraiser's report shows that within a half-mile of a proposed airport location a loss of 75 percent in assessed valuation is imminent. From this it would appear that airport rights-of-way may be rather expensive.

GUARDED AVIATION—Despite talk about National Guard air units, there are indications many states will not want to participate because the cost is high, and because air units won't have the negligible benefits of infantry and other ground forces.



New sketch shows details of the forthcoming DC-8 transport.

North American's Twin Mustang is expected to be an early contender for cross-country speed flight honors. Army pilots who will fly three Lockheed P-80 jets in a record-breaking attempt may be the first way in a series of 1946 dashes. New still is keen on reports that an F4U is being groomed at a Southern California base. All flights will be made with a cover for a storm tubular.

Private Flyer Tourists Swarm to First Post-War Miami Air Show

Navy combat tactics and Army jet flights overshadow few civilian competitions scheduled on incomplete program.

The first nationally-promoted air show since war's end, the All-American Air Manoeuvres, last week-end drew thousands of aviation enthusiasts to Navy-controlled International Airport, Miami, Fla., for a three-day demonstration.

Next successful part of the show appeared to be the unusual lightplane tour to Florida, sponsored by lightplane manufacturers and the Gulf Oil Co. Nearly a thousand air tourist planes had arrived in Miami as Thursday morning, and hundreds more were expected.

With opening of the show only a few hours away, as this was written, the program of competitive events still was incomplete. Virtually all contests were to be with light or civil plane types. Flight training exhibits, during which a man and woman would be given flight instruction through tele, was planned for the three-day meet.

Spotaneous demonstrations of constant maneuvering and precision formation flying by Navy and Marine fighter pilots, and exhibitions of jet and conventional-powered

fighters, helicopters and bombers, were scheduled highlights of the military side of maneuvers at the show. Fifteen battle-tested carrier planes were to demonstrate the combat tactics of "The Navy's Flying Might," while Naval Air Group 25 and Marine Fighter Squadron 402 were on the program in other exhibitions.

There appeared a question whether the lightplane tourist group would reach its advance registration of more than 2,000 pilots, due to bad flying conditions at some home airports in the north, and to aged condition of many of the remaining private planes in service, but a large representation was already assured.

Wilbur Shaw, three-times winner of the Indianapolis speedway auto race, and a veteran private pilot, was official starter for the racing events, while Col. Mike Murphy, former international aerobatic champion and first pilot to land a glider in the Normandy invasion, was one of the judges.

The racing events were to be sanctioned by the National Aerobatic Association, a chapter of

FAI Sanction

Post-war resumption of national air races, with the show at Miami last week, recalled the ruling of the Federation Aeronautique Internationale, world governing body of sporting aviation, still in force, requiring sanction of any such meet. The ruling calls for suspension of the FAI license of any person who "on any occasion participate" in an unsanctioned air meet, which would bar him from participation in any sanctioned meet.

Sanctions for air meets in this country are issued by the National Aerobatic Association, as U. S. representative of FAI. It is empowered to issue FAI licenses on the spot, if necessary, to non-foreign holders.

A revamping of meet and record rules is now in progress and NAA sanction fees also are being revised.

These fees cover expenses of timers, clerks and record-keeping.

which, the Greater Miami Airport Association, was a sponsor of the show. With NAA timers supervising conduct of the meet, any outstanding performance would have the stamp of authenticity and could be put in as claims for national records. Official sanction was obtained by sponsors shortly before opening time.



READY FOR CONVERSION:

Lined up on a ramp at the Glenn L. Martin plant at Middle River, outside Baltimore, are a dozen of the more than 130 C-54's which the company is converting for commercial airline use. Martin has contracts totaling more than \$20,000,000 for conversion of these

ships for 14 airlines, including two South American lines. The company also is converting a number of C-47's for some of the airlines. Pennsylvania-Central was to get the first of the conversion jobs. Delivery at the rate of one per day is slated by mid-January.

WHAT WE HAVE DONE FOR OTHERS

WE CAN DO FOR YOU

THE TELEOPTIC COMPANY
Racine, Wisconsin

WRITE FOR DETAILED LITERATURE ON PRECISION PARTS, ASSEMBLIES, AND TIMING MECHANISMS
THE TELEOPTIC COMPANY, 1251 Mound Ave., Racine, Wisconsin

Exhibitions of the new biplane-type parachute included a high speed cargo drop from a heavy bomber, flying at more than 400 mph, and dropping a lightplane from the air by a large parachute.

Beverly (Bever) Howard, lightplane stunt flyer, Sammy Mason and Woody Edmonson, were among specialty flyers on the program to entertain between racing events.

The Army's Lockheed P-30 Shooting Star, one of the fastest planes in the world, and the two-seater Bell P-39 Airacobra, and a Stinson biplane were to give flight demonstrations. Exhibited on the ground were a T-29 Boeing Superfortress, Douglas A-26 Invader, P-47 Flying Fortress, North American P-51 Mustang and Republic P-47 Thunderbolt. Other Army ground displays included combat radar equipment, both search and bombing installations, and a B-29 mobile training unit for ground crews.

Carl Froehagen, contest chairman, reported that virtually every major airplane manufacturer was represented at the meet, as well as a country-wide representation of makers of accessories, aviation fuel, and flight school and aircraft service operators.

Linus H. Walker Named

Confidential Aide to Lee

A former member of the staff of CAA's General Counsel, Linus H. Walker, has been named confidential assistant to John Lee, Board member. Walker succeeds Jay McDon-

New Approach Indicator Developed

An approach angle indicator utilizing light beams of three colors has been developed by Westinghouse to assist pilots in night landings and will be used for the first time on the first three runways at Idlewild Airport, New York City.

Two units are placed at each end of a runway and project light at an angle toward approaching aircraft. A top yellow beam indicates the plane is above the proper angle of approach, a green middle beam is the correct approach, and a red bottom beam warns of a too-low angle.

British Development — Reported

to be an adaptation of a system developed by the British during the war, the Westinghouse indicator employs filters to obtain the three colored beams. The light rays are deflected from the CAA experimental approach indicator light system in which the middle white beam is obtained by synthesizing the top green beam and bottom red beam.

The Westinghouse device also uses the three colors set up as standard during the war. The filters in the CAA indicator can not be altered and for that reason it is not expected that the indicator will be installed at airports.

ties, who returned recently to join the Professional International Civil Aviation Organization where he is now acting as assistant secretary of PICA's Air Transport Bureau.

Prior to joining CAA in October, 1944, Walker spent slightly over a year as a student in CAA's war training service program, obtaining a commercial pilot's license and an instructor's rating. He then attended AAP's Central Instructors School at Brooks and Randolph Fields, Tex., receiving an Army primary flying instructor's certificate which he later used as an instructor at the Army's Primary Contract School at Ryan Field, Tucson, Ariz. A graduate of Whittier College and University of Washington Law School, Walker once served as assistant law librarian of the Washington State Supreme Court and

practiced as his home town of Ellensburg, Wash.

Other Changes—Recent changes in CAA's Office of Trial Examiners bring to 30 its total membership. Herbert K. Bryn and Ralph L. Mann have joined the service to the Navy. Both were with CAA for three years prior to entering the service. Frank A. Treisman, Jr., has left his position as examiner and returned to teaching duties at the University of Wyoming, from which he has been on leave of absence. Return of at least two more examiners is anticipated.

AiResearch Holds Contracts Exceeding \$4,000,000

AiResearch Manufacturing Co. of Los Angeles has received contracts in excess of \$4,000,000, for cabin superheating and air conditioning equipment to be installed in the Lockheed Constellation.

Outstanding among this equipment is the company's "Tornado in a Teapot," a lightweight mistjet air expansion refrigeration turbine of high performance for aircraft air conditioning. Units now on order from AiResearch range from one about the size of a man's fist to one approximately 14 in. in diameter. The smallest, weighing only 3 lb. is used to create a 130-degree temperature drop at 7 lbs. airflow per minute.

The "Tornado in a Teapot," result of nearly five years engineering development, introduces a new development in lubrication for control of friction at extreme speeds, and the perfection of high pressure manufacturing techniques. Its turbine rotor revolves 120,000 times per minute and creates air velocities as high as 600 mph.

Esso Takes Lead in Campaign To Bolster Aircraft Servicing

Advocates of wider use of personal planes worried over high rate of service operator failures, fear hindrance to private flying unless trend is checked.

Worried because the record of aircraft service operators has shown a high rate of business failures, advocates of wider use of personal aircraft are studying carefully the problems of the last category.

Their concern lies chiefly in the belief that private flying cannot flourish without a strong servicing system. As increased number of aircraft are taken over by the thinking man. Operators in the field must have modern equipment, give high-price service, and yet prosper.

Campaign—One of the leaders in the campaign to strengthen the aircraft service operator's position is the Standard Oil Co. of New Jersey, which has more than 100 aviation products dealers in 14 states. Bobb C. Gerst, manager of the aviation sales division, especially emphasizes the operator's difficulties in obtaining financing, which he sees as one of the most critical aspects of the aircraft servicing picture.

He points out that public funds for airport construction will not be used for hangars, shop equipment, restaurant and other facilities, all of which are necessary property to serve the private flyer. On the other hand, lending agencies do not finance airport operations. Gerst suggests that the operator's supplies might alleviate this situation by extending long-term credit.

Report—While unconfirmed by company officials, there are seemingly reliable reports that Standard has granted that kind of aid and to one instance, at least, has made a straight loan to a new operator. For the most part, the company's assistance is promotional and educational. Currently, Standard is offering a cooperative advertising campaign to dealers, under which the company assumes the greatest proportion of the cost of a dealer's local advertising.

Standard's aviation credit card is believed to be unique. Distributed through dealers, it enables the holder to charge to his account not only gas and oil, but maintenance, hangar storage, repairs, landing charges and any other bill incurred with a dealer.

Service Aids—To aid operators in providing better service, Standard claims to have originated information charts explaining the type of oil or grease used on every mechanical part of an aircraft. A special slide film, "Fly Good Insurance at Your Airport" is being shown to operators to give helpful hints on other phases of serving the public. Best security have instructions to stress accurate bookkeeping to operators, and furnish information on bookkeeping services available.

Barr Named Chairman of AIA Export Committee

J. M. Barr, export manager for United Aircraft Corp., has been named chairman of the Aircraft Industries Association's Export Committee. Robert Kincaid, Washington representative for Boeing, is vice-chairman. Barr succeeds Irving H. Taylor, of Douglas.

New members of the committee include W. D. St. John, sales manager of Piper Aircraft Corp. and K. S. Landis, sales manager of The B. O. Corp. Twenty companies are represented on the committee.

McCarran Seeking Full Transport Data

With the explanation that "no government agency has as much, or is currently gathering, anything approaching adequate transportation statistics," Sen. Pat McCarran (D., Nev.) has introduced legislation directing the Census Bureau to compile complete statistics on air, highway, and waterway transportation. Rail statistics were eliminated from the proposed study, since these are now being adequately compiled by the Interstate Commerce Commission.

Need—"There is no need to argue that the problems involved in seeing to it that the true public interest is preserved in our national transportation policy are both complex and serious," McCarran announced. "The solution of these problems is going to require a lot of straight, hard thinking."

"To be realistic, this thinking must be based on the most accurate body of factual data which it is possible for the Congress and the executive branch of the government to assemble."

For example, McCarran suggested, there should be data available as to the relative use which manufacturers in different lines make of railways, highways, waterways, and air transportation facilities, in assembling of materials and in the shipment of products.

McCarran's bill is pending before the Senate Commerce Committee, of which he is a member.



CANADIAN TUDOR PLANT

Rome of A. V. Roe (Canada), Ltd., at Toronto's Malton Airport, where the Canadian subsidiary of the British firm is to build military aircraft and is expected to produce the Tudor transport. Lancaster and Liberator bombers were built in the government-constructed plant during the war.



INSTANTANEOUS ACCESSIBILITY

Only two men-at-arms are required to open the quad on the Constellation's 2,500-hp Wright motor for inspection. Standard equipment of all Constellations, the new arrangement has no supporting members forward of the firewall to interfere with work, Lockheed says.



Experimental Engine and Plane: The McDonnell Aircraft Corp.'s experimental fighter, the XP-47, was powered by the 2,300-hp liquid-cooled engine of Continental Aviation & Engineering Corp. The engine developed high power at an exceptionally low pound-per-horsepower ratio.

Experimental Engine Sets New Records

Continental Hyper produced 1.5 hp per cubic inch of displacement and weighed only .78 lbs. per horsepower.

A high-powered, liquid-cooled engine that proved many engineering developments that were incorporated in other power plants was built during the war by Continental Aviation & Engineering Corp., it has been revealed with the lifting of security restrictions.

While only 23 of the 2,000-hp, 1-1400 Hyper engines were developed, unique features were put into engines of other manufacturers which were being produced in volume and had greater power. This engine was adopted, rather than the construction of a new factory and tooling to mass produce a new engine of higher horsepower.

Flight Tested: The Hyper was flight tested in the Lockheed XP-40,

and the McDonnell XP-47.

The manufacturer claims three world records for it—a power output of 1.5 hp per cubic inch of displacement, a weight of .78 lbs. per hp, and a 32-in. diameter A-15 cylinder, inverted V-type, the Hyper weighs 1,440 lbs. It was developed especially for use with a turbo-supercharger.

High Output: Among the pioneering features in the Hyper was the exploitation of high brake horsepower per cubic inch displacement. Continental declares, "the engine properly selected, clearly demonstrated that reliable engines could be built for maximum pressures of 1,400 lbs. per square inch, compared with approximately 800 lbs. per square inch for diesel."

After the engine passed its tests in August, 1944, information on it was made available to other manufacturers. This is reported to have resulted in fundamental improvements in nearly all liquid-cooled engines both in this country and in Great Britain.



Power Engine: The 2,300-hp liquid-cooled engine developed by Continental Aviation & Engineering Corp. during the war had such a low ratio of power output to weight that its outstanding features were adopted to the liquid-cooled engines of other manufacturers.

Radford Named Aide On Service Merger

Appointment on active committee is viewed as shared Navy move to protect an aviation branch.

Selection of Rear Admiral Arthur Radford to be the Navy's representative on a special task committee to assist the Senate Military Affairs Committee in drafting a bill for a single department of defense is seen as a shared and important move by the Navy to protect its aviation in Congressional action unification.

Admiral Radford, a ranking officer in the Bureau of Aeronautics and now deputy chief of naval operations (CNO), is a strong advocate of naval air power. He was head of the ultra-secret and powerful Radford Board which made a continuing study of fleet aircraft performance throughout the war. Members of that board were with the fleet, aboard carriers during all combat operations and their reports were credited with making naval aviation so flexible.

President: Admiral Radford's record and well-known views on aviation are expected to win the respect of the committee. At the same time, because of his strong viewpoint his presence will have a tendency to protect the independence and integrity of naval aviation in a specialized branch.

His appointment was the second important official recognition of service in the Navy. Previously, Secretary Foraker named Admiral John H. Towers, former naval aviator, as commander-in-chief of the Pacific Fleet and Pacific Ocean area. He succeeds Admiral Hopper. A. Spruance who was appointed president of the Naval War College at Newport, R. I.

Another top fleet assignment went to a veteran naval aviator when Vice Admiral Marc A. Mitscher, whom Radford succeeded as CNO (navy), was assigned to command the Fifth Fleet.

Wilson to Speak

Eugene R. Wilson, vice-chairman of United Aircraft Corp. and chairman of the board of governors of the Aircraft Industries Association, was scheduled to address the National Agricultural Cooperative Transportation Committee at a banquet in Chicago today. He will speak on "The Two A's—Agriculture and Aviation."

Brig. Gen. Arnold Takes ATA Position

Acting chief of staff of ATC to be vice president of operations and engineering.

An addition to top personnel of the Air Transport Association was announced last week along with plans for expansion of the organization's work and emphasis on all-weather flying studies.

New man is Brig. Gen. Milton W. Arnold, acting chief of staff of the Air Transport Command, who was to step out of that job before the week was out to become ATA's vice president in charge of operations and engineering.

Plans: He and Robert Ranspach, former congressman who became ATA's executive vice president Jan. 1, will work with the association's new president and Stuart G. Tipton, who has been acting head of ATA, to carry out the expanded program. The presidency has been offered to Vice Admiral Emory S. Land, chairman of the Maritime Commission.

Stress will be placed on study of commercial application of radar and other war-developed electronic devices. Arnold will direct the industrial work with the assistance of John Grewes, director of operations, and A. W. Dallas, director of engineering. Four experts are to be added to the operations staff to work with air traffic control and other problems. ATA proposes to use an aeronautical radio laboratory at Mineola, Long Island, for its traffic control studies.

Also planned is a conference of airline specialists on engineering and maintenance problems, with subcommittees on aircraft requirements, equipment standardization, cargo handling, fuel, servicing, and domestic and international air regulations.

UAL Broadens Air Freight Service

System-wide plan begins next month; other changes reported to CAB.

United Air Lines will inaugurate a system-wide air freight service Feb. 1. Rates, based on maximum shipments of 25 lbs., will run as low as 27 cents a pound. On shipments of 2,000 lbs. from coast to coast Douglas DC-3's Cargo planes will be used pending study of C-54's and new type designed chiefly for cargo.

UAL last week began service into Detroit with two daily weekend flights to Chicago and Pacific coast cities and two non-stop transcontinental flights. Non-stop service between Detroit and Philadelphia and between Detroit and Albuquerque is provided. West Coast schedules of UAL have been stepped up with the addition of two round trips daily between Portland and Seattle and three daily between Los Angeles and San Francisco.

Other Changes:—Other service changes reported to CAB:

Eastern:—Started service at Birmingham, Ala., and Brunswick, Ga., effective Jan. 1 and 2, respectively.

Island:—Added one round trip daily between Denver and Cheyenne and between Cheyenne and Denver, effective Jan. 1.

Western:—Added one round trip daily between Salt Lake City and Pocatello and between Los Angeles and San Francisco, effective Jan. 1.

Stratmaster Deliveries To Start Late This Year

William M. Allen, president of Boeing, has announced that deliveries of the Model 377 Stratmaster, commercial version of the B-20 Superfortress, will start the latter part of this year.

Allen and Boeing also has two new similar transports in the design stage, but save no details.

Production of the Model 377 and the parts for the B-20 is scheduled to begin next month.

C-W Seen Stressing Guided Missiles

Guided missile—jetless aircraft—may be one of the principal post-war activities of Curtiss-Wright Corp., one of the industry's biggest aeronautical producers.

Development of guided missiles is regarded as spectacular in the company's wind tunnel and laboratory at Buffalo, which recently was presented to Cornell University (See Productivity) as a gift to be used for joint development work among eastern aircraft manufacturers. Prospects are for some substantial production orders for this type of weapon.

New Gas Turbine:—Another new Curtiss-Wright product is its gas turbine engine which may be ready for test flights late this year or early in 1947.

The company entered from its recent war business with approximately \$100,000,000 in net working capital. Termination of contracts, most of them on a fixed fee basis, has been rapid. Deliveries in 1945 were approximately \$100,000,000 and in 1946 \$1,700,000,000. The company is not adding much plant expansion since it used government-owned facilities in its expansion for war work.

Navy Study:—About pressing production military phase appears to be the Navy's next, the DC-3. Biggest commercial business appears to be production of engines.



ARMY GLIDE BOMB:

Described by the AAF as a "present glide bomb," this 1,000-lb. bomb equipped with wing and tail surfaces carries a battery in the compartment all of the wing and has adjustable control surfaces. It is designated the GB-1.

New Synthetic Oils Described to SAE

Advances, outlined at Detroit meeting, include better performance in cold weather operations.

New synthetic lubricants which contain no petroleum oil, but which have some advantages over natural oils were reported to the Society of Automotive Engineers, meeting today in Detroit.

Developed by research extending over 25 years in laboratories of the Mellon Institute of Industrial Research, and of Landis Air Products Co., National Carbon Co., and Carbide and Carbon Chemicals Corp., one of the new lubricants is suitable in water and adapted to use in internal combustion engines. The other, soluble in water, can be used as brake fluid, a cutting oil, or for lubricating rubber of metal.

While more expensive than petroleum oils, the engine lubricant in tests has shown better performance in cold weather for starting and operation, and greater freedom from sludge.

Atomic Power—Utilization of atomic power in jet-propelled planes and in rockets was predicted by Dr. John R. Dunning, of Columbia University. Current limits in such applications are heat transfer problems and high temperature properties of available alloys.

Although admitting that prophecy is dangerous, Dr. Dunning declared it unlikely that atomic power ever will replace common fuel in most applications. Common concept of the cost of atomic fuel will

Martin Gives \$800,000 More for School

A gift of \$800,000 has been made to the University of Maryland by Glenn L. Martin for developing an aeronautical engineering college. This is the second gift made to the University by Mr. Martin. He previously contributed \$1,700,000 for this purpose. The gift, approximately \$750,000 to bring the total to \$2,500,000.

Dr. H. G. Boyd, president of the university, in a joint statement with Gov. O'Connor said plans were under way to begin construction of buildings to house the aeronautical

research and aeronautical engineering activities before May 1.

Progress—Mr. Martin said he hoped to help create "an educational and research organization in aeronautical engineering that would be permanently helpful to industry and at the same time be of lasting value to humanity."

The new college will be known as the Glenn L. Martin College of Engineering and Aeronautical Sciences. Plans call for the use of \$2,500,000 for plant and facilities and \$2,000,000 for research.

have to be revised on the basis of Dr. Dunning's paper, as he stated that cheaper methods of producing U-235 are in sight.

Auto Industry—What the aircraft industry can contribute from a construction standpoint to the automotive industry was outlined to the engineers by Mac Short of Lockheed Aircraft Corp., and W. E. Miller, consulting engineer, of Burbank, Calif.

The speaker's basic use of metals, and employment of lighter metals. The opinion was expressed that the auto manufacturers' practice of mounting a heavy body on a heavy chassis is not efficient utilization of materials and structures.

Nova Scotia Buys Field

A wartime built airfield used in training the RCAF at Waterville, N. S., has been sold by the Canadian War Assets Corp. to the province

of Nova Scotia for approximately \$6,000. It is reported it originally cost \$119,000 to build the airport and buildings for the RCAF. The airport will be used for non-scheduled commercial air service by Pulliser Brothers Ltd., Halifax, who have been licensed by the Canadian Air Transport Board to give service out of Waterville.

Canadian Surplus Sales Exceed \$2,000,000

The Canadian War Assets Corp., surplus disposal agency, said more than \$2,000,000 worth of aircraft and components in the first eight months of fiscal year 1948-49. Aircraft sales totaled \$947,270; engines, \$66,645; aircraft components, \$209,113; aircraft instruments, \$24,823; raw materials, \$111,350; and engine components, \$57,827.

The disposal corporation has also announced it is placing on sale the government-owned plant at Vancouver Island during the war by Boeing Aircraft. The plant covers two acres and the main building contains 33,400 sq ft.

PRIVATE FLYING

New CAR Part 03 Held First Effort To Set Up Full Engine Requirements

Sec. 0.4 of airworthiness requirements for personal planes held by CAA engineers; industry expected to have agreed to most provisions after conference.

In the opinion of CAA engineers, 24 pages of regulations governing the powerplants of personal airplanes, part of the new CAR Part 63, (airworthiness requirements for personal planes), from the first attempt to set-up comprehensive powerplant requirements for the personal airplane.

Industry engineers who at first protested the requirements are said to have given approval later to most provisions relating to powerplants, in conference before the section was finally submitted to the Civil Aeronautics Board for final study and adoption.

Covered—Contained in Section 0.4 of Part 63, the powerplant regulations set up requirements for propellers, fuel and oil systems, tanks, pumps, valves, lines, fittings, distributors, cooling tanks, liquid coolants, de-icing and anti-icing, exhaust systems, manifolds, boosters, scavengers, fire walls and cowling as well as controls and accessories.

Except for minor changes and elimination of some repetition, the final powerplant section stands very much the same as the first proposal of CAA. Industry engineers are understood to be reserving comments on it, and as Part 63 generally,

ly, until they have a larger time to work under its provisions and determine how they affect the manufacture of personal planes.

Other Provisions—Other principal provisions of Part 63 include:

• Revision of stalling speed requirements to limit maximum allowable stalling speed to 70 mph for single-engine aircraft, and for two-engine aircraft of 6,000 lbs. or less gross weight which fail to meet single-engine climb requirements.

• Provision that multi-engine aircraft of above 6,000 lbs. gross weight must have a rate of climb with one engine out, at least 0.02 multiplied by the plane's stalling speed in normal landing configuration, using wing flaps if the plane has them, at the height of 3,000 ft., with cowl flaps set for cooling on a hot day.

• Provision that single of climb must be at least one to 12 and rate of climb must be at least 300 fpm.

• Requirement of the following limit load factors for various non-transport planes. Non-sportable, 15; normal, 15; utility, 4-6; acrobatic, 6.

It is significant that the regulations do not require a stall speed limit for two-engine planes of over

Swift Approved

Globe Aircraft's all-metal two-place Swift, last week received an approved type-certificate from CAA. The all-metal plane was a development of the pre-war experimental Globe Swift G-1A, which used a plywood wing in combination with all-metal fuselage. The manufacturer reports that the all-metal Swift is believed to be the first post-war designed personal airplane to receive its NC

6,000 lbs. which can meet the rate of climb requirement with one engine out. For example, a two-engine plane with 70-mph stall speed would have a required rate of climb of 80 fpm. with one engine out. But the plane could have a stall speed of 80 or 90 or 100 mph, or even more, provided it had correspondingly higher rate of climb with one engine out.

Skyranger Approved; 12 Arc Delivered

Two months after the first test flight of the first Cessna-owned Aircraft Skyranger, the plane has received its CAA approved type certificate, and 12 of them have been delivered to distributors, the company announced last week at Kansas City.

The two-place high-wing monoplane is selling at \$2,350 complete with starter, generator and battery. Production is expected to reach 100 a month within a few weeks, with further production increases scheduled as more materials and parts become available.

Backlog—Cessna-owned has a

TELEVISION CONTROL

Designated the GB-2, this is a radio-television controlled glide bomb developed by the Army.

AVIATION CALENDAR

- Jan. 8-12-ATA North Atlantic traffic conference, New York.
- Jan. 10-11-ATA Annual Meeting, New Orleans.
- Jan. 11-12-Combined (5th): Aircraft Show, 9:30-11:30 a.m., Dallas Planning Council, Room 1010, Dallas.
- Jan. 12-13-Combined (5th): Aircraft Show, 9:30-11:30 a.m., Dallas Planning Council, Room 1010, Dallas.
- Jan. 21-22-Conférence of International Bureau of Aviation Meeting, University of Chicago, Chicago, Illinois.
- Feb. 10-12-ATA European Area Conference, Chicago.
- Feb. 12-ATA North East Area Conference, Chicago.
- Feb. 19-20-ATA Transport Association Trade Show, Metropolitan Conference Room, New York.
- March 1-2-ATA Annual Meeting, New Orleans, Louisiana.
- March 2-3-ATA Annual Meeting, New Orleans, Louisiana.
- March 3-4-ATA Annual Meeting, New Orleans, Louisiana.
- March 4-5-ATA Annual Meeting, New Orleans, Louisiana.
- March 5-6-ATA Annual Meeting, New Orleans, Louisiana.
- March 6-7-ATA Annual Meeting, New Orleans, Louisiana.
- March 7-8-ATA Annual Meeting, New Orleans, Louisiana.
- March 8-9-ATA Annual Meeting, New Orleans, Louisiana.
- March 9-10-ATA Annual Meeting, New Orleans, Louisiana.
- March 10-11-ATA Annual Meeting, New Orleans, Louisiana.
- March 11-12-ATA Annual Meeting, New Orleans, Louisiana.



"Skyrangers" Leave Plant: Two-Place new Skyrangers, Cessna-owned Aircraft's new post-war two-place side-by-side personal plane delivered recently

to distributors at the Kansas City Fairfax Airport. It was the first delivery of the new planes which have been type certified by CAA.



Culver's Simplify Control Explained

More detailed information about the Simplify control on the Culver Model V two-place personal plane is revealed in a recent report on the control operation by Al Mooney, Culver vice-president in charge of engineering.

The slotted flap and extends over 70 percent of the wingspan, canting across under the fuselage and has the effect of straightening out the surface at the point where the wings join the fuselage. The flap, Mooney reports, has an optimum setting for any desired flight condition, instead of just two settings which have been all the "up" and "down" flap provided— "up" and "down."

Dial Setting.—As previously reported, the plane is trimmed to the best attitude for any phase of flight, by setting a flight control dial in the cockpit, which operates the flap and simultaneously moves the ailerons. The combination of the two surfaces results in the degree of longitudinal control required for any desired attitude.

For example, the "approach" setting turns the plane for the flattest possible glide for the greatest distance at a speed of about 75 mph with gear up. Mooney reports, "It is not necessary to lift the plane as you land, although a good pilot probably will, as the landing will be a little smoother."

Elevator.—The elevator is reduced in use, in comparison with the ailerons, and only moderately change the attitude of the airplane, becoming a stabilizing factor when fighting rough air.

Power is not a determining factor as far as speed is concerned on the Model V, Mooney reports, but merely determines whether the plane goes up or down. Speed is governed primarily by the flight control dial setting.

Stability.—Basically the plane is a two-control plane, the air, flows by wheel alone, but the rudder is provided for additional control in cross-wind takeoffs and landings. The airplane can be slipped "moderately," he reports. Approach and landing speed is about 44 mph, and the control dial may be set for this speed with power or without power. The plane has more stability at low speed than at high speed, the engineer says.

The control system is a result of the company's development of military radio-controlled target planes.

Los Angeles Airport Hearing This Week May Set Precedent

Beliegent minority of property owners, opposing new fields, strong political pressure, makes adoption of master plan unlikely in its present form.

The Los Angeles County Board of Supervisors hearing this week on proposed adoption of a revised master airport plan seeking approval for 26 existing airports and 39 proposed terminals, airports and emergency fields, within the county, probably will set an important precedent for other communities throughout the nation.

Adoption of the plan as presented will mean the board is ignoring protests of a beleaguered minority of property owners who have made it clear they want no airports in their local areas. Opposition is based on the noise-increase of low-flyers, unattended planes in residential areas, disturbance to herds and flocks of adjacent dairies and chicken ranches and the menace of crash landings. Strong political pressure makes outlook for adoption of the plan not too bright.

Problems.—Peculiar to Los Angeles County, with its population of close to 3,600,000, is the opposition of "old residents." These are the home owners and owners of small citrus and livestock ranches who have been settled in the area in semi-rural to round out their lives in the slow-paced tranquility offered by chambers of commerce.

Somehow belatedly the aviation industry, airport owners, aviation associations, and airport planners of Los Angeles County have been alerted to the fact that planning for future airports is not enough. The "old residents" must be mollified.

They have begun talking to people, to airport opponents and politicians, but possibly too late to exert immediate influence for the Master Plan.

Arguments.—They are pointing out to County Supervisors and members of planning commissions that an airplane which made a forced landing in the street or a subdivision, and which might have struck a house or killed children, and no airport to which the pilot could be directed in the emergency.

They are gathering power and statistics to show that property surrounding existing airports, large and small, has not depreciated but actually has tended to increase.

They have taken the members of the Los Angeles County Regional Planning Commission to airports to show that the noise of in-use airplanes taking off and flying low overhead has been drowned out by a passing train and even by a diesel highway truck half a mile distant. They have shown commission members that cows, horses and chickens are unconcerned over airplanes passing low in approaches to adjacent airports.

CAA Statistics Cited.—CAA records are being cited to show that residents far removed from airports have the highest incidence of damage from crash landings, and that well-planned airports are insurance against property damage.

Apparently upmost in the minds of many West Coast airport operators is the recollection of four war years of military flying attended by disastrous accidents in residen-



CAA MEN GET MEDALS:

Briggs, Eugene Medala, Cushman Dixon, and Des Moines, Des Moines, chairman of the committee will present, and W. L. Jack Nelson, former executive secretary, now president of Service Aviation Corp., Washington, D. C., will be the committee in ex-officio capacity.

Childs, one of the country's best-known test pilots, resigned as manager of Curtiss-Wright Corp. flight test division, to fill a vacancy left by resignation in October of Nelson.

Flight Career.—Childs was born in Philadelphia in May, 1904, and has a Bachelor's degree from the University of Pennsylvania. He has been connected with the Curtiss organization since 1925, first at Garden City, as project engineer on several early personal plane developments, and later as chief engineer of the Curtiss-Robertson Corp., at St. Louis.

tail areas, and by the out-gassing engine and propeller noise.

Air Caves Ready.—There is indication that organized aviation groups will be ready at the hearing to welcome local government seeking of irresponsible flying, and the adoption of ordinances requiring the muffling of engines.

Presentation by the National Aeronautics Association Southern California Chapter of petitions bearing signatures of thousands of property owners urging adoption of the Master Plan is scheduled for the hearing.

Also on the indication of the trend of airport planning, the Los Angeles Supervisors will have for consideration sketches of a variety of proposed private airports and airports which are intended to substitute for yesterday's "emergency" airfields as effective as well as utilitarian bases for pleasure and commercial flying.

Advisory Committee To Meet Jan. 23-24

First 1966 meeting of the CAA Non-scheduled Flying Advisory Committee, Jan. 23-24 in Washington, will introduce the committee's new executive secretary, Henry Lloyd Childs, former Curtiss-Wright test pilot, and will call for consideration of an agenda including aviation insurance, accidents, further needed revision of Civil Air Regulations, civilian pilot training, radio equipment for private pilot, and success of the designations of flight examiners and inspectors to augment the small staff of CAA-employed inspectors.

Arthur Bowman, Des Moines, chairman of the committee will present, and W. L. Jack Nelson, former executive secretary, now president of Service Aviation Corp., Washington, D. C., will be the committee in ex-officio capacity.

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"Skyranger" G-60, NC. Equipped with interior cabs (skins) designed to appeal to the women pilot, the Aero Commemorative Skyranger has just received its approved type certificate. Production is expected to reach 200-to-month soon.

backlog of more than 3,499 orders with cash deposits for the Skyranger and the three-place twin-engine Trimmer amphibian, which is used to go into production soon. The Skyranger is described as having a 102-mph. cruising speed, 115-mph. top speed, and is said to be "unusually" stable in flight. Use of slots in the wings make the plane virtually non-spiralable, the manufacturer says.

Flowness.—Distributors who flew over the first 13 Skyrangers from the plant include Allied Aviation Corp., Cockeysville, Md.; American Flyer, Ft. Worth; Max K. Adick, Cleveland; Aviatron, Aviatron Corp., Washington, D. C.; Commonwealth Aircraft Sales, Ft. Smith, Ark.; Casew Aviation Enterprises, Lumberton, N. C.; Memory Flying Service, Phoenix, Ariz.; Northwest Aviation Corp., Milwaukee; Page Airways, Inc., Rochester, N. Y.; Sky-Tech, Inc., Cleveland; and Wells Aviation Co., Detroit.

Seaplane Base Planned

A seaplane base will be constructed on the Willamette River at Portland, Ore., if the city Bureau of Building allows Rainbow Airways to use a 3,000-ft. strip in the center of the river between two bridges for landings and take-offs. The company, of which T. P. Hannan is president and B. C. Sturges chief pilot, proposes to establish a base with hangars, offices and other facilities at the foot of Montgomery St. Instruction and student practice would be carried on outside the city limits.

Tennessee Field Plans Expanded Activities

A 20-room hotel and a combined auto-airplane service and repair station are planned for construction at Gill-Dove Field, between Martin and Union City, Tenn. The field is owned and operated by Gill Steel-co, has provided flight training for more than 2,000 persons since its opening in 1959.

A dining room with seating capacity for 300 is now being completed, while Steelco also plans to have a large dance pavilion in the hotel with dances three nights a week. The field was originally purchased by Steelco for operation as a "dude ranch" but when he became interested in private flying, he converted it to a private flyer's airport.

Hopewell, Va., Organization Plans \$100,000 Airport

A modern airport, costing more than \$100,000, and capable of handling commercial planes and seaplanes, will be built at Hopewell, Va., by Hummel Aviation, Inc., Fred H. Hummel, president, announced. It is expected the project will be completed by April 1.

Hummel says he plans to make the airport one of the best of its type in the country. Other officers in the company are Barlow P. Shortt, vice president; Morris Hummel, secretary-treasurer; and M. P. Hancock, operations manager. Plans call for four runways, an administration building, shop, private hangars and a seaplane hangar.

When the Curtiss-Wright Corp was formed in 1931 Childs was named chief of design, and five years later was named chief of flight test. In 1948 he held an unofficial world's speed record for a 560 mph dive in a Curtiss fighter.

While Childs' experience in recent years has been mainly with high performance aircraft, his early career is in design of personal aircraft, and his long association with the aircraft industry are regarded as very useful qualifications in his new post.

Lockheed Pusher Passes First Test

Lockheed's model 34 experimental two-seater pusher-type lightplane, which may become the company's first small commercial personal aircraft, flew successfully and safely Dec. 28.

The plane is powered by an experimental 160-hp Continental four-cylinder engine, designated XC-109 by the manufacturer.

Flight Tested—Performance secrecy was assured by making the test flight at the Army's Palmdale Airbase on the Mojave Desert. Pilot was Preston Clowers, chief pilot of Mac Shurt's special projects division of Lockheed, which also developed the single-place model 32 Little Dipper. Observers were piloted over results.

Lockheed officials have given no indication that at this date a decision has been reached to attempt commercial production of the plane. It is understood that plans on the design will be taken out under the names of Robert H. Gross, Lockheed president, and Robert Reedy, project engineer.

Lockheed will continue demonstration flights of the Little Dipper, built in less than four months in 1944.

1,000th Private Plane Registered in Michigan

Michigan Department of Aeronautics reports registration of the 1,000th non-military airplane in the state. Registration fee, based on net empty weight of the plane, average about \$150, payment of which exempts the owner from personal property tax payments on the plane to counties and municipalities. While no arrests for non-registration have been made, the department is placing warning tags on a few planes which have not yet been registered.

Briefing For Private Flying

A natural expenditure of \$1,000,000,000 per year within 10 years for private flying is a conservative estimate, if the manufacturing, sales and service organizations of industry make sufficient investments and do intelligent planning to develop the market, John H. Gense, assistant to CAA Administrator T. P. Wright, and personal flying analyst, forecasts. Gense says that the general pattern in marketing personal planes than has been one of drastic limitation of expenditures to stay within a niche, a method which never has been very successful in developing other volume markets. He calls for more attention to design of planes for easy operation and safety, additional, and more convenient, airports; more attention to convenience and desires of the private pilot and the consumer, and more aggressive merchandising.

FLIGHT TRAINING OFF?—Despite a CAA report of 70,000 student pilot certificates for 1945, the largest number ever issued, a plane manufacturer representative who has just completed a swing around the country visiting dealers, reports his observation that student flight training is down about 25 percent below wartime levels, having dropped off sharply since after V-J day. The drop, coupled with a decrease in repair and overhaul necessitated by the introduction of the first new planes since 1941, is causing some severe uneasiness among many of the operators who are anxiously waiting new planes to sell in order to get back on a profitable basis. Part of the slack in training is seasonal, much of it may be attributed to the introduction between jobs, and the general unrest in the country in the immediate post-war months. It is a warning that must be recognized, however, by the industry. Many student pilots consider flight training as something they can get along without, if need be. Until the industry does the things John Gense is talking about for the private flyer, private flying doesn't have utility, and still is for the average American, only a hobby.

NATIONAL BOARING CONTEST—Officers of the Soaring Society of America are receiving a number of bids from various cities in the East, Midwest and Rocky Mountain areas for the first post-war National Soaring Contest, to be held sometime next summer. The competition is expected to attract the largest number of competitors in its history, due to heightened interest in soaring as a result of the war. Time and place of the contest will be determined within a few months, when all the bids are in, at the society's Elmira, N. Y., headquarters.

REVISED SPECIFICATIONS—Specifications for the new Fairchild F-24, which is being built in Dallas by Texas Engineering & Manufacturing Co., for the Fairchild personal plane division, vary in some details from those of the pre-war F-24, particularly as to length, height and gross weight. The Dallas-built F-24 is 25 ft. 3 1/2 inches long, as against 23 ft. 9 in. length quoted for the pre-war F-24. The revised version has a gross weight of 2542 lb., as compared to 2550 lb. pre-war, and the height is 3 ft. 7 1/2 in. as against 3 ft. pre-war. Oddly, there is only one mph. difference between the 115-hp Warner-powered F-24 and the 125-hp Warner-powered F-24 in either top speeds or cruising speeds. The Warner-powered plane has 436-mph. range and the Warner engine stops the range up to 639 mi. For the color-coordinate paint—and this factor will be more important post-war than hootchie—the F-24 is offered in standard colors of azure (trimmed in buff, yellow trimmed in green, or red trimmed in gray). The Warner-powered version costs \$2,550 with the Warner-powered plane selling for \$375 more.

FLYING IN BRITAIN—As of Jan. 1, British private flyers were permitted to resume private flying, which had been under government ban since 1938 because of military restrictions. The U. S. National Aeronautics Association, through its president, William Ebyart, sent a cablegram of congratulation to Lord Eversham of Totes, president of the Royal Aero Club of Great Britain, wishing the British private flyers "for weather and unlimited skies." Gense-mentioned President Ebyart probably didn't think of it, but he wished for the British flyers two things which are very much at a premium in the United Kingdom.

—Alexander McSkerry

ANOTHER AIRPORT FOR float planes



Dams of the Nation Create "READY-MADE" Bases for Flight

They cut high in the millions, they are built for power, flood control or irrigation, but the mighty dams constructed to harness rivers have free and "ready-made" airports for float flying. For the plane equipped with floats, they are ideal bases for sport or commercial flying.

These dams make outstanding areas

available to well-populated regions formerly lacking in all types of airports. They are sport and recreation areas, and they offer thousands of new opportunities for flight schools, sales agencies or charter flights. Now projects, to name other river systems, are now planned. More "ready-made" airports are in the making.



Take the Tennessee River, for example.

On the river system above the Tennessee Valley Authority has built 26 dams. Indeed the largest dam is a hole 144 miles long, with two dams of square miles in flow. Through out the nation, other chains of dams offer new opportunities for flight with floats.



Master Float Makers

AIRCRAFT CORPORATION 512 Second Avenue
College Point, Long Island, N.Y.

Airline Equities Now Selling At Many Times Book Values

► **Baas**—In this upward course of airline prices, little attention has been paid to basic asset positions. Instead, emphasis has always been placed on future prospects—potential earnings. As a new industry, the air carriers were surrounded

It can be seen that United has the most conservative market evaluation, selling at only 2½ times its estimated book value. In a large measure this is probably due to the large supply of stock constantly available and which has restrained thus markets causing sharp run-ups. It will also be noted that United has by far the largest book valuation among the carriers shown.

M. J. Griffin

^a Assuming complete conversion of preferred stock.
^b Giving effect to recent sale of additional stock and assuming exercise by employees of warrants to purchase a total of 20,000 shares of stock.

Example.—For example, Brazil and Northwest are estimated to have the same book value but the former is recorded the higher market price. On the basis of past earnings and future growth prospects, some astute analysts would conclude that this relationship may be reversed in due time. Similarly, American and United have approximately the same market value although differing widely as to book values. This particular relationship has prevailed in recent years and it is believed may continue.

A joint committee to study easing of border restrictions has been set up by the U. S. and Canada. Specifically included are customs arrangements relating to joint use of airports near the border, entry of tourist aircraft and in-transit movements of foreign aircraft.

pieces of all types lighter and stronger it, has been and will be OSTUCO Seed Tuting in each vital in engine, mounts, steel assemblies, fuselage frames and hydraulic systems. The trust which every major plane manufacturer places in this company is based on skill, experience and high quality standards which are traditionally OSTUCO's . . . from the earliest days of tube making in America.

New history in air travel and air trade is ready for the writing. An important factor in making planes of all types lighter and stronger is, has been, and will be OSTUDCO Steel Tubing in such vital as engine mounts, strut assemblies, fuselage frames and hydraulic systems. The most which every major plane manufacturer places in this company is based on skill, experience and high quality standards which are traditionally OSTUDCO's . . . from the earliest days of tube making in America.

MANUFACTURERS OF SE
AVIATION NEWS • January 7, 1960

The Birdmen's Perch

by Major Al Williams, ALIAS, "TATTERED WING TIPS,"
Gulf Aviation Products Manager, Gulf Bldg., Pittsburgh 30, Pa.

REFINING INFLUENCE

Suppose you're doing an engine overhaul.

First, you take off the cover, get the engine out, and take it apart. But you don't stop there. In fact, do what you really begin. Because then you proceed with cleaning the engine — getting rid of any unnecessary parts — putting it back together again.

The steps followed in refining Gulf-grade Oil are very much the same as those in an engine overhaul.

First, we get a top-quality crude. Then we take it apart—that is, refine it into lubricating oil (and all its by-products).

And right there is where Gulf's famous Alkylol Process really begins. For this



even step cleans the already-refined lubricating oil, and gets rid of more of the unnecessary parts—the carbon forming, and contaminating hydrocarbons.

And you have Gulf-grade Oil!

Well—what are you making life? Get some!

LITTLE KNOWN FACTS DEPT.

Another month, and still no quarter for our Little Known Facts Dept.'s contribution.

The field's still wide open, and all it takes is 5 "T's" that we can use—no proof! Meanwhile, you can tell me a com-

moner as Perch Pilot (brown wing) with 1 "T's."

Like these:

"No formation of American Air Force planes has ever been called back from its objective by enemy action!"



That gets Anthony Knight, of Mechanics, love, a commission

And here's the kind of a deal we especially like. AMMO by Robert L. Gray, Jr., VC 75, USS Commander Ray CVE 75, sent me "T's" in the same letter—both good ones. So he's a lucky commander, and, what's more, but only 3 "T's" to go for his promotion to Senior Perch Pilot.

1. "THE TRF is the longest, shiftable, stick-down stream in the world!"

2. "TRF's have been used for torpedoes, gliders, glider-launching, rocket-launching, and just plain sailing—and with one exception the TRF holds the record for the highest amount of enemy shipping destroyed."

How about it—have you any Little Known Facts?

Said 'em in, then! Address them.

Gulf Oil Corporation and Gulf Refining Company, makers of



PRODUCTION

Industry Reported Disappointed By Work of Technical Missions

Participants reveal accomplishments were below expectations due to muddling and lack of careful coverage of German plants; majority of reports considered worthless.

Expecting a great mass of helpful information on German engineering, production and advanced aircraft models after the end of the war in Europe, the U.S. aircraft industry has been sorely disappointed because the work of technical missions was badly muddled, it is now being said by participants in the investigations.

At least half a dozen different U. S. groups, plus some from the British, invaded Germany on the heels of the armies, seeking German scientific secrets. Some of the experts took their assignments seriously, but too many others, it is reported, treated the job like a tourist trap. The result is a few reports of excellence, but the great majority are worthless.

Missiles—Chief among the missions were TIC—Technical Intelligence Committee of the Foreign Economic Administration, NAVSEC—Naval Technical Mission, the von Kuman group, dispatched by Gen. Arnold, chief of AAF, USSTAF—United States Strategic Air Forces, NACA—National Aviation Survey Committee for Aeronautics, USSS—United States Strategic Bombing Survey, and two or three British groups.

These missions, according to participants, ranged unclassified through Germany, descending like after another on the same plants in some cases they found all evidence and data on a given phase of design and production had already been removed by a preceding mission. The German plant chiefs, some of whom were completely cooperative, were dismayed, and frequently expressed surprise that the Americans had been able to win the war.

Yields Spotty—Many of the air investigators picked out aircraft plants that had glowing reputations, such as Messerschmitt, which was overrun as by a swarm of locusts, and passed up others that were either out of the way, or un-

British and American missions worked in each other's zones of occupation, but in cases where there was only one document, or only one prototype machine, for example, it was taken to and kept in the technical center at London, though the Americans were permitted to take away copies and photographs. This arrangement apparently was agreed to by the Combined Chiefs of Staff.

Much Destroyed—Beyond doubt a great volume of data was not available to the British and Americans. During final stages of the war, Allied bomb attacks destroyed many documents and prototypes, and killed many persons who could have given information. The Germans themselves, during that same period, moved many of their aircraft and other facilities westward in an effort to escape air attack.

Then, before any investigators arrived, came the ground forces of the Allies, battering down whatever secrets remained in their search for information, concealed weapons and intelligent persons. Many German plant chiefs, willing to give information, said they could not find their records and equipment in the chaos of buildings that had not been bombed.

Random Record—In the Berlin area, which was first occupied by the Russians and later by a joint Allied force, and which included many important aircraft and other plants, the technical missions found mostly bare buildings. The Russians had taken everything not attached to the ground, such as plumbing and heating fixtures. One investigator said they had even pulled the wiring out of electrical conduits.

X-ray Booklet Available

A booklet describing X-ray equipment used in industry for the detection of internal flaws in finished parts is being issued by the North American Philips Co., 103 East 42nd Street, New York City.

C-W Wind Tunnel Given to Cornell

The Curtiss-Wright Corp. has presented its \$4,000,000 research laboratory and wind tunnel at Buffalo to Cornell University for a research educational program cooperatively sponsored by a group of Eastern aircraft manufacturers. Although C-W has removed its activities to Columbus, De C C Farms, its director of research, will remain at Buffalo to superintend work at the laboratory.

Guy W. Vaughan, president of the company, declaring the plan would permit wider use of the laboratory, said:

"We devoted considerable study to the use of our research facilities at Buffalo," he said in announcing the decision, "and became convinced that under present conditions their maximum use for any company could not be justified."

Plant—The three-year-old research laboratory contains modern scientific and testing devices, the most outstanding of which is a closed-circuit, variable model can be tested in air velocities approximating the speed of sound. A smaller tunnel gives velocities of supersonic speed.

The deed to the property has been given to Cornell, and the laboratory will be financed by eight big aircraft companies in the East which will contribute \$100,000 annually. C-W is one of the companies.

Institute of Aeronautics Planned at Northwestern

Northwestern University is planning the establishment of a new Institute of Aeronautics for the purpose of conducting research on the fundamental problems of the aviation industry.

Dr. Franklyn S. Styer, university president, said the new institute will require an ultimate endowment of \$10,000,000 and will be directed by Fred D. Page, Jr., vice-president and dean of engineering. It will represent a pooling of all the aeronautical resources of the school's plant, equipment and manpower for the purpose of developing a coordinated program of research, Dr. Styer said.

University divisions participating in the work of the institute will include the technological institute, the school of commerce, the school of law, the medical school, and the college of liberal arts.



JANUARY, 1947

Considers the machine!

Here's the Power line of completely remodeled Al-Futur Publications New Year Resolutions. Just check such items as this section of the Power, and pass it inside the throttle.

- 1. I will not make stupid turns at low altitudes.
- 2. I will be kind to myself, visitors, and GSA Representatives.
- 3. I will be kind to my engine—by using Gulf-grade Oil.
- 4. I will always submit proof with my Little Known Facts About Well Known Phases.
- 5. I will use Gulf Aviation Gasoline so that my part-part can "make like a peanut plane."

FLUTTER'S DITTY BOX*



Said a star in the star-of-sophistication, "It's getting around over the top of the world, the cockpit pilots. And now—plans by the several. Good with Gulf's G.A.O., is it, here?"

"If you can do better—DO... and send it in, K.W.L."

AIA Veto of Export Advertising May Bring Even Stronger Drive

At least three firms now are discussing cooperative campaign; likely to stress present and future products rather than purely wartime advances as was proposed.

Despite the rejection by the board of governors of the Aircraft Industries Association of a proposal for an industry-wide advertising campaign to attract export business, the industry's efforts in the export field are seen as likely to increase, with the Export-Import Bank's work, although separate, contributing powerful support.

AIA's veto at the recent Los Angeles meeting (AVIATION News, Dec. 11), rather than indicating reticence to the export market, actually paved the way for a stronger export campaign than the one contemplated. The original plan called for general advertising stressing the overall excellence of U. S. equipment on the strength of wartime performance. This was looked on with misgivings by some familiar with export trade who believed a better approach would be "selling" the production of the present and future, rather than that of the past.

New Proposal.—In essence that is what it is now proposed to do. AIA government turned down the original plan for four main reasons: the association has never undertaken advertising campaigns; there would be a financing problem; consensus was that any advertising done by the industry should be on specific products, a project outside the lion of AIA; and some companies, those engaged in purely military work, quite naturally cannot be interested in the export field. Not much is that advertising abroad will be undertaken either by individual companies or by several companies in a joint campaign. It is understood that at least three firms now are discussing such a cooperative effort with an advertising agency. The emphasis in any such activity will be on types of products either in use or projected, and will be designed to meet efforts of foreign manufacturers, notably those of Great Britain, who are displaying great vigor in seeking export business.

Federal Assistance.—Although the U. S. Government has never as actively promoted export sales as have some foreign governments, the aircraft industry is encouraged by the

attitude and work of both the Export-Import Bank and the State Department, the latter through its civil air attaches abroad. The Bank officials say frankly that they regard the aiding of export sales of U. S. aircraft as one of their "most important activities," and there are indications that applicants from foreign sources to use the Bank's funds for aviation purchases here will generally be looked on with favor.

The Bank not long ago was authorized to lend up to \$3,334,000. Its procedure is not to make outright loans, but rather to extend lines of credit to foreign governments, foreign business houses, or U. S. companies operating abroad, for the purchase in this country of specific items or commodities. The borrower must obtain the Bank's approval for the purchase of each separate item. That is why the attitude of the Bank's officials toward aircraft purchases is considered a helpful sign.



AIRSEARCH CITATION:

One of four Southern California companies to receive such recognition, Airsearch Manufacturing Co. recently received from Army Air Force a special Service Award for technical training given AAF assistance in the use of high altitude equipment. Walter Brundage, Airsearch general manager, received the award scroll from Brig. Gen. C. D. "Cassidy" Vincent.

Old Customers.—Among countries which have recently been extended lines of credit are Norway, Denmark, France, The Netherlands, and Belgium. Although the first essential of all of these is food and clothing, most of them were previous customers of the U. S. aviation industry, and their return to their former sources of supply is expected in the not-too-distant future.

Before the war, industry sources state, U. S. aircraft, engine and accessories manufacturers constantly suffered from the lack of full information as to the state of the market abroad. This situation has been greatly improved by the appointment of the civil air attaches, most of whom are pilots and have good basic knowledge of aviation. The reports of these men repeatedly have been made available by the State Department to the industry and have given the industry a far broader and detailed knowledge of foreign markets than ever before.

CPA Authorities ANMB To Detail Preference Ratings

The Civilian Production Administration has amended Directive 41 to shift to CPA authority to authorize the Army and Navy Munitions Board to issue instructions governing the assignment of preference ratings within limits prescribed by CPA priorities policy decisions.

This applies to contracts, purchase orders and other procurement documents to the orders of the Army, Navy and National Advisory Committee on Aeronautics and certain other government agencies.

ANMB also is authorized to rate deliveries on contracts to such procurement agencies and for contract construction which includes military and naval airport projects.

Mach Meters Offered Wind Tunnel Operators

The Mach Meter originally designed for the Air Technical Service Command by Taylor & Cooper, Inc., now is available for other operations. The instrument determines the compressibility factor in wind tunnel testing.

Computations of Mach number, which are the ratios of airplane speeds to speeds of sound at different altitudes, entails lengthy mathematical calculations. The Taylor & Cooper meter eliminates this task in wind tunnel work.



The '46 model has a real heat problem

GRANDSTONER shivered with the keystone stove going full blast. The newest, fastest jet propulsion aircraft burns the same familiar fuel—but what a difference in heat! The flaming gases of jet propulsion range upward from 2000°F!

Handling these gases was a

problem for specialists in stainless steel—for specialists in heat and corrosion—for the specialists at Solar!

Now... the engineering and fabrication skills that produced exhaust systems for jet aircraft... are ready and waiting to tackle your problem. See Solar for cost-cutting engineering and designing with high temperature alloys. See Solar for advanced forming techniques from deep drawing to precision casting. For quick action—write, wire or phone: Solar, San Diego 12, California. Factories in San Diego and Des Moines, Iowa.



SOLAR

Solve your toughest problems in engineering and fabricating high temperature alloy products

New Model Helldiver Delivered to Navy

Another Curtiss McEldner modification has been delivered to the Navy without public mention. It was an experimental model, the XSRSC-6, which never was mass produced.

The plane originally was intended to be an improved Helldiver, the plane being to produce it as the successor to the SRSC-5. Rapid developments in dive and torpedo bombers, however, made it undesirable to place the "dash six" in the service type category, and it therefore was used experimentally to test cer-

tain new features of a subsequent design airplane.

Design—Two prototypes of the XSRSC-6 were produced, the first being delivered in May. Both had Pratt & Whitney engines and Curtiss constant-speed electric propellers. The second of the two planes had a special 13-ft. 5-in. propeller. The fuselage of the "dash six" was 20 in. longer than that of the earlier SRSC-5, and the landing gear was more than 8 in. longer to allow the extra-size propellers but took up no more room.

Metal covered control surfaces and square-cut wing tips changed the familiar outline of the older Helldivers.



VIBRATIONLESS:

New Vibronstock units, anti-vibration devices developed by Robinson Anshutz, Inc., support the instrument on the right in the above photo, while that on the right is mounted on an older type of unit during tests on a vibrating stand. The difference in clarity is the result of the Vibronstock mount which is claimed to absorb 98 percent of both lateral and vertical vibrations. Chief innovation in the new unit is the stainless steel spring, shown in the cutaway, which bears the principal load. The device is made in three sizes, to bear loads ranging from one-half pound to 45 lbs.

G. T. Waite Elected Chairman of NASC

Gordon T. Waite, engineering representative, Consolidated Vultee Aircraft Corp., has been elected national chairman of the National Aircraft Standards Committee.

The Aircraft Industries Association announced that Waite, former Air Corps officer and Navy engineer, will direct the aircraft industry's efforts to extend its program of standardizing aircraft equipment to facilitate the interchangeability of parts among varying aircraft types. A Consolidated Vultee engineer for the past eight years, Waite has specialized in materials standardization for that company.

Other Officials—The Eastern division of the NASC will be guided during the coming year by Chairman James F. Harwood, Standards Unit chief, Wichita division, Boeing. L. J. Collins, Douglas Aircraft standards engineer, has been elected western chairman. T. P. Beerna, Ryan Aeronautical Corp., was named western vice-chairman and H. R. Lander, Bell Aircraft, eastern vice-chairman.

Salisbury Motors Taken Over By Northrop Aircraft

Northrop Aircraft has further diversified its aerospace business with the acquisition of Salisbury Motors, formerly Avian, Inc., of Los Angeles.

The acquisition gives Northrop a variety of Salisbury products including 6-hp. air-cooled engines, a new automatic clutch and transmission, and a steam-driven motor scooter. Due for early production is a package delivery car.

Heads of Salisbury are Richard W. Miller, Board Chairman, and Don L. Carroll, president and general manager. The acquisition will be effected by an exchange of stock.

Full Meeting Schedule Is Resumed by ASME

The American Society of Mechanical Engineers has announced resumption of its full schedule of national and regional meetings which was interrupted by the war.

The regional aviation meeting, sponsored by the American Division of the ASME will be held at the University of California in Los Angeles, June 3-6. Dr. John E. Younger, of the University of Maryland, is secretary of the division.

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And for added power in an emergency or on take-offs, the big Wright Cyclone engine is equipped with a water injection system using a

GECO water injection pump. This steps up the forward engine power from 1425 hp. to 1550 hp.—a real boost when it is needed most.

Chandler-Evans is particularly proud to have played a part in this newest addition to the great Navy arm. For whether it concerns planes for war or peace, Chandler-Evans' engineering skill and knowledge always stand ready to serve America's aviation industry as new developments enter the ever-changing picture in the air.

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SPECIAL AIR SERVICES

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INTRASTATE

Michigan Central Airlines Seeks To Enter Interstate Operations

Penninsular state company finds largest demand there is for point-to-point transportation rather than for feedline service to nearest major trunkline terminal.

Founded on the premise that smaller communities must have access to major gateways, rather than to the nearest major airline connection, Michigan Central Airlines, Inc., with headquarters at Bishop Alpert, Flint, Mich., is doing much to increase the state's handicaps of being surrounded on three sides by water.

A pioneer intrastate carrier, Michigan Central has rounded out two years of continuous operation over a route extending from Detroit to Cadillac, via such industrial centers as Flint, Saginaw, Bay City, Midland and Mt. Pleasant, with an extension beyond Cadillac to Traverse City during the summer vacation period. Two additional routes have been applied for and the application was heard as a part of the CAAI Great Lakes Area hearing before CAAI.

P-Plans—The routes applied for, which would bring the line into the interstate carrier category, call for Douglas DC-3, equipment "as an interim airplane," according to company officials. The first route would extend from Flint to Marquette, via Detroit, Charlevoix, Traverse City, Ludington, Muskegon, Grand Haven, Kalamazoo, South Bend, Kokomo and Indianapolis. The other route would originate at Tri-Cities Alpert, serving Saginaw, Bay City and Midland, and would extend to Chicago via Flint, Lansing and Kalamazoo.

Started in response to requests from industries in the Saginaw Valley for faster service to Detroit, Michigan Central has "reached its peak" as far as intrastate operations are concerned, in the opinion of B. T. Dert of Flint, its president, who points to figures showing that during the period from Jan. 1 to Nov. 30, 1945, it ran up 466,704 revenue passenger miles and now is ready for bigger things.

P-Background—Michigan Central has the usual fixed base background. Founded by R. S. Bishop, Jr., in 1939, the company brought and sold aircraft and conducted a flight instruction as well as a mechanics school until the advent of CIPAF. Contracts were secured, the main business until CIPAF's demise. Bishop was joined in 1941 by Dert, who had been active in other aviation pursuits prior to that time.

The operation began with a single-engine Beechcraft which made two trips daily between Detroit and Bay City. At the time trips were made only when there were passengers. When experience showed it was possible to secure business, trips were made on a scheduled basis, and two more Beechcrafts were acquired.

Triffle grew rapidly and Stinson Reliants were placed in service. On Sept. 1, 1944, the line shifted to twin-engine Cessnas in an effort to offer additional safety and reliability, since instrument flights had not been considered feasible with single-engine craft.

P-Growth—With present base averages, 6.5 cents per seat mile, business has grown enormously. Over a representative period from Oct. 12 to Dec. 14, 1945, 2.2 passengers were carried per trip, based on ticket-sales being divided into schedule-miles.

The fact that Michigan, owing to an unusual geography is an "island" as far as surface partners are concerned, has provided additional business in the first north-south run. From Detroit to Flint, a ground distance of 74 miles, 180 miles is 2 hrs 5 min. Michigan Central makes it in 25 minutes. The trip from Detroit to Midland, 120 miles ground distance, requires no less than seven hours and 30 minutes by rail, while the airline's Cessnas make it in 35 minutes. For the entire route, Detroit to Cadillac, a distance of 217 ground miles, the

Kaiser Seeks C-54's

Henry J. Kaiser's proposed San Francisco-New York air freight service may be expected to start by March 1.

Again, now in the East are seeking C-54 airplanes. It is estimated in obtaining C-54s, the company will be in a position to lower an originally estimated rate of approximately 58 cents per ton mile (for C-47s) to close to 15 cents per ton mile.

Original announcement of the Kaiser project was made in Antonio News Nov. 12, but Kaiser officials have not yet released any announcements of their plans.

trains take seven hours and 22 minutes. Plane time is 1 hr. 30 min.

P-Traffic Flow—Ninety-five percent of the line's business is to or from Detroit. The average figure of 2.2 passengers per trip is remarkably high in view of this factor, since it means that if every plane leaves Detroit with four passengers, seven of them embark before the end of the run. It is proof, too, of the fact that ship stops and small airplane non-stops are required along a route of this sort.

Additional plans have been added from time to time, and, in conjunction with the Star Route mail contract with the Post Office Department for service from Charlevoix to Beaver Island during winter months, service was inaugurated into Charlevoix on Jan. 1, 1944. During the summer months this tourist resort was the source of an extremely heavy flow of traffic.

New Concept—The experience of Mexican Central has been taken to believe that growth of so-called feed-line routes is an entirely new type of operation will be hastened by the concept of "circular" and "star-shaped" lines. The failure of such feeder systems in Michigan about a year ago adds proof. Dert also feels that further limiting of such service to the no-stop stop limitation "imposes the same hardship upon smaller communities that it does on larger communities now served by large carriers."

"It's our experience that ship stops are definitely even more required for feeder line operation than for land line operation. We can't terminals have adequate schedules offered for service to the smaller towns, and only then can the traffic potential of a given town be thoroughly exploited for the

benefit of the carrier as well as the public." Deet points out, illustrating with an occurrence of last summer, when it was found necessary to have every trip out of Detroit for a period of one week a run-stop to one town only, since, otherwise, each trip would have had a very low average load factor. Passengers, he states, were "well pleased" with the service.

So, as a method of operation entirely feasible where stable traffic demands are well-known," he said.

Miami-Based Line Serves South America

A non-scheduled air express airline, Skyways International Trading Transport Co., has down more than 184,000 air miles and \$400,000 worth of drugs, mostly penicillin to the West Indies, Central and South America in six months of operations that began last July with a flight from Miami to Rio de Janeiro.

Currently operated only under contract basis with drug firms, the Miami-based line expects within six months to offer express service to the public on a "pay per load" basis. Equipped with four Lockheed Lodestars, the line is operated by Robert J. Bergeron, once associated in a flying school associate in Cleveland.

Plans—"At present," Bergeron says, "we are making a survey right down the west coast of South America in advance of extended operations that will carry express cargo to the West Indies and points along both the east and west coasts of South America. Although only drugs and medical supplies are now carried, future plans call for the hauling of all types of freight, including aircraft equipment and parts."

The line will remain only a cargo carrier and passenger operations are not planned, he said, adding that it will operate only south of Miami.

In his first effort at airline operations since 1929 when he left the small flying school and charter service to join a maritime exporting firm, Bergeron hopes to add more planes to his airline as soon as he is able to purchase new cargo built planes.

Established—With offices already established in Caracas, Lima, Matanzas and Rio de Janeiro, the airline has arranged for representing agents in every principal city in Latin America to contrast for exportable material.

On return trips to the United States the Lodestars bring in South American drugs.

The airline was formed in November 1944 to facilitate military contract transport operations in the Caribbean area, but by the time operations began war ended and the operations were extended to commercial contract cargo work to South America. Base operations for Skyways International are located at the military extension of Miami's 16th Street international airport but will be moved to an exclusively all cargo airport being planned by Miami authorities.

Marked—Bergeron recently returned from a two month South American trip to look into the air transportable export market. "Latin markets are very favorable," he said, "especially for American built light planes. Latins are very interested over our small planes for private operation," he said.

Aviation Gasoline Tax Proposed in Virginia

Revenues from a proposed 5-cents-a-gallon tax on aviation fuel would go to finance a state aviation program, under the recommendations of the Virginia Advisory Legislative Council, reported last week. The state now imposes a similar 3-cent tax on all gasoline but refunds 3 cents per gallon on aviation fuel.

Other proposals of the council asked for creation of a seven-man committee, appointed by the Governor, to advise the state aviation division on problems and policies; legislation enabling local governments to acquire, singly or jointly, land and facilities for airports; and amendments for flight over property adjacent to such airports, expanded aviation education in high schools.

Former Operators Veteran 2 New Lines

Companies being organized in California will have commercial-official as the helm.

While some of the newly-born non-scheduled companies obviously will have much to learn in the actual operation of their services, two now being organized should have an appreciable advantage in their possession of operational know-how.

One is Transairways, under development by a group of Army pilots, among them former officials of All American Aviation, Inc., and Pennsylvania Central Airlines. The company probably will operate out of Los Angeles Airport.

Consolidary Offshoot—The other is Industrial Air Transport Corp., with a directorate of seven former officers and employees of Consolidary, recently disbanded after establishing an excellent record as a contract carrier for Air Transport Command between Fairfield, Calif., and the Grant.

IATC has a \$100,000 capitalization, with no public stock offering, and will sign an operating license at Ontario, Calif. Airport. Immediate purchase of one surplus C-48B is planned, and members of the company hope to establish service to Honolulu in addition to commercial shipments of perishables.

Directors and officers are: J. Edwin Jones, president, former Consolidary chief of flight operations; Leo Dorney, vice-president, former Consolidary captain; Ben Loren, secretary, former Consolidary station manager; Quentin Crotten, George Messenger, C. G. Brown, and Steven Baldwin, Jr.

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Pan-Maryland to Use Cruisers

Pan-Maryland Airways will use four-place Bellanca Cruisers in its immediate operations. President G. Bernard Farnick has advised the Maryland Public Service Commission. The first plane is scheduled for delivery February 18. Deliveries of the other four he estimates will be needed well follow in March and April.

Originally, Pan-Maryland had planned to use Taylorcraft Model 12's. While the Bellancas are lighter, speed, their greater speed will make possible lower per-mile operating costs and offset the price

differential. Having secured a distributorship franchise for the Cruiser as well as for the Taylorcraft, Farnick said, the company will have the price advantage initially contemplated when plans for the service were laid around the use of Taylorcrafts.

An important factor in the equipment switch was a delay in delivery of the Taylorcrafts ordered. Powered by a 100-hp. Franklin engine, the Cruiser cruises at 125 mph, has the same landing speed as the Taylorcraft and is within 100 lbs. of gross weight.

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PERSONNEL

ACS Traffic Department
Headed by L. S. Robbins

J. Stratton Robbins has been named vice-president in charge of traffic of American Overseas Airlines. Robbins served as special assistant to Nelson Rockefeller, Coordinator of Inter-American Affairs during the war and has had extensive travel experience. He joined Europe on Wheels, Inc. to build the drive-yourself system in Europe before the war. He was director of the educational travel department of the Grace Line from 1938 to 1943.

Peter J. McDonnell (photo), regional director of public relations of American Airlines, has resigned to become associate director of public relations of Abbott Kinship Co., Inc., New York advertising agency. McDonnell has served in the trade.

Alyce Smythe (left) has been named administrative assistant to PCA president C. Bebel Moore. Miss Smythe has been secretary to Moore for the

past seven years. **Mart L. Foster** (right) becomes coeditor of trans-



ing for PCA and Charles DeWitt, personnel analyst in the department of personnel administration. Fowler was formerly with Carnegie Illinois Steel Co., while DeWitt was staff assistant to the personnel director of Glenn L. Martin Co.

Boeing Airways has announced the following personnel appointments. Maj. Allen Aldridge, AAF veteran, has been named district traffic manager in Memphis replacing E. G. Fawcett, who has been transferred to

Tolson as district traffic manager. **Max Douglas Wood**, Dallas district traffic manager for five years before joining the ATC, has returned to his former position.

John D. Weaver, who started with Douglas Aircraft Co., Inc. 20 years ago and became plant manager of the Chicago factory, has resigned to enter private business in the manufacture of food machinery. He has been a technical assistant to Donald W. Douglas since 1964. Prior to taking over the Chicago plant Weaver was in charge of the Oklahoma City plant.

M. G. Tuttle, former director of industrial relations for Consolidated Vultee Aircraft Corp., at San Diego, has been appointed permanent chairman of the Southern California Aircraft Industry group. He has resigned from Convair to accept his new position. Tuttle was director of industrial relations for Vultee Aircraft, Inc., from 1936 until the merger when he was transferred to San Diego.

Robert L. Johnson, (photo) has returned to his post as director of engineering and publicity for United Air Lines at the Chicago headquarters after more than two years as an air combat intelligence officer with the Navy. Johnson began his aviation career in Seattle with the Boeing Airplane Co., in 1928 and moved to Chicago in 1933 when the Boeing Stearman and other models were turned into United Air Lines.

Writer E. "Red" Neff, who was in Pan American Airways' public relations department for four years before joining the company as public relations manager of the Atlantic division. Neff recently was head of the aviation section of the Navy's public relations. While still with Pan Am, he was loaned for a short period to the Air Transport Association for public relations and advertising programs. **Chambers D. Pippenger** has been appointed assistant specialists superintendent of Pan Am's Latin American Division. He has been with the airline since 1957.

Henry C. Naugle, recently released from the Army Air Forces, has been appointed superintendent of maintenance at Houser-Perkins Airport, the Indianapolis, Ind., base of Perkins Aircraft Sales & Service, Inc. Before ex-



PCA EXECUTIVE:

James H. Carmichael who was recently elected executive vice-president of PCA. A widely known aviator, he has been vice-president in charge of operations. He has been with PCA since the merger of Central Airlines into PCA.

joined the Army. Naugle was president of the Naugle Aircraft Corp. of Latrobe, Pa., a lightplane manufacturing concern.

Transcontinental and Western Air, announces appointment of **Walter Brown, Jr.**, as director of passenger traffic of the international division. He has been with the American President Lines since 1933. **Peter H. Rodolph**, a technical executive of TWA, has been granted a leave of absence to serve as operations manager for SLLA, Swedish airline. He will make headquarters in Stockholm.

George S. Sharke, assistant general sales manager of the Sperry Gyroscopic Co., has been appointed general sales manager, succeeding Hugh H. Willis, who has resigned as vice-president and general sales manager. Formerly with Ludlum Steel, Sharke joined Ford Instrument Co., a division of Sperry, in 1961 as procurement manager. He has been named a division manager also.

Here Thompson (photo) has joined the Walter Dornis Tempco Co., industrial designer, to advise on airport terminal facilities and act as consultant to communities and others planning airports. Thompson was formerly chief of building design service of the Civil Aeronautics Administration and wrote the landmark "Airport Buildings" which will be reissued soon.





Which piston was used longer?

If you guessed the one on the left, my again.

Actually, the cleaner of the two pistons was in use twice as long as the carbon-coated one. The difference was simply that the carbon-coated piston came from a test engine lubricated with a straight, high-quality mineral oil.

The clean piston came from an engine lubricated with Standard of California's IMPROVED RPM Compound Aviation Oil.

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TRANSPORT

CAB Approval of IATA Agreement Looked for Before Tomorrow

Government circles expect favorable decision by then, pointing out carriers need to enter North Atlantic meeting sure of their legal grounds.

Official quarters expected last week that a Civil Aeronautics Board decision on approval of the International Air Transport Association agreement on traffic conferences would be announced by tomorrow, the date the North Atlantic conference is scheduled to meet.

The traffic conference agreement, framed at Montreal in October, was filed with the Board by American carriers desiring to participate in these regional groups, which will consider rates and other matters of interest to the airlines. CAB must approve all carrier agreements.

Deadlock—The Board reportedly was deadlocked for several days on the matter of approval, two members for and two against. But officials elsewhere in Government were confident that a decision would be reached by tomorrow. They observed that it would be unwise for the carriers to be allowed to go into the North Atlantic meeting ignorant of whether the Board considered their action legal.

It was known that a decision to disapprove the IATA agreement would be considered a severe setback for the State Department, which feels that the carriers themselves should consult and agree on rates.

Attitude—The State Department reportedly feels its hand would be strengthened greatly in bilateral negotiations for civil aviation agreements if it could point to CAB approval of rate conferences as indication that that government deems as much as easy to revert rate wars.

Lack of such assurance, according to some authorities, causes the French government to hesitate in framing a formal act accord with the United States.

Interim Plan—The French, meanwhile, have joined in an interim arrangement to expand the services provided for in the bilateral agreement of 1939 under which Pan American Airways flew two weekly flights to Marseille.

The interim measure provides that the French government will "consider favorably" American requests for additional flights on the guarantee that reciprocal benefits will be granted France. American officials and such requests will be made when Transcontinental & Western Air and Pan American decide the number of trips they would like to operate. France accepts the Fifth Freedom of the air, which she opposed at the Chicago conference, and thereby grants TWA the right to pick up traffic in France and carry it on to third countries.

In reversing her position, France drew away from Britain, when she supported ardently at Chicago.

Two Routes—The arrangement, to be in effect until a formal agreement is concluded "soon," provides for two U. S. routes and two French.

The U. S. routes are those certified by the CAB to TWA and Pan American in the North Atlantic de-

Colonial Application

Colonial Airlines, in an application recently filed with CAB, is seeking designation as the single airline to operate the New York-Paris-Boston-Quebec route authorized under the existing air transport agreement with Canada.

Granting of this application, together with a New York-Boston, Pa., extension sought in the Middle Atlantic case, Colonial says, would enable it to offer Washington-Quebec service via alternate routings.

The French obtain rights to one route across the North Atlantic to New York and Washington and one to Montreal and Chicago.

Arrangement that bilateral air agreements had been effected with Czechoslovakia and Turkey was expected from the State Department over the weekend.

French Order—Another official act affecting international air transport last week was President Truman's order shifting control of airports and facilities in Iran from the War Department to the Civil Aeronautics Administration. CAB obtained control of "all" facilities necessary to the operation of civil aircraft of the United States in international air commerce at Tehran, Aland and Isfah, Iran.

CAB sources said this action fol-



AMERICAN OVERSEAS AIRLINE EXECUTIVES:

Three top officials of American Overseas Airlines, returning recently from business trips in Europe, (left to right): James G. Ryan, vice-president, operations; Sumner S. Sewall, president; Leontine Brown, European Director, were met by Harold R. Barra, vice-president and general manager; Terrell V. Donahue, vice-president; John E. Slater, chairman of the board, and J. Stanton Robbins, vice-president-treasurer. Barra had been on a survey of ground installations overseas. Sewall was in Europe to make agreements with foreign governments and effect organization along AOA's routes.



PORTUGUESE GET BRITISH PLANES

In what was described as Britain's first export post-war commercial planes, three de Havilland Dragon Rapides and one Percival Proctor recently were sold to Companhia de Transportes Aereos (CTA), privately-financed Portuguese firm with headquarters at Lisbon Airport. The planes are shown in flight to Lisbon. Dr. Havilland says the Dragon Rapide, while of pre-war design, is the most economical transport available for light and variable traffic. CTA will open its first route between Lisbon and Oporto, carrying passengers, freight and newspapers.

lowest departure of American fares from Iran and that the CAA would operate the issue pending future disposition either through direct negotiations with Iran or through proposals of the Provisional International Civil Aviation Organization.

On another front, it was announced that the recent British White Paper on civil aviation, containing little information in addition to that already announced, will be debated in Congress, January 24, on Government motion for approval.

TWA Seeks to Break Ocean Pay Deadlock

Asks pilots to fly at average monthly figure pending resolution of controversy with ALPA.

By MERLIN MICKEL

Transcontinental & Western Air has asked its pilots to fly its international routes at a salary equal to their average monthly pay for the last six months, pending solution of a salary controversy that has blocked its international operation.

The carrier, one of three authorized to fly the Atlantic, has stood by with its Constellation and DC-4's grounded while differences over pilot pay have stymied an agreement with the Air Line Pilots

Association. Pan American Airways and American Airlines meanwhile have stepped up their trans-Atlantic service to a daily flight team.

Demands—Demands for pilot salaries in excess of those paid by either Pan American or American have been made of TWA by ALPA and dismissed at length by the airline and the association. The National Mediation Board has been asked to help find a solution.

Senior pilot members of the organization receive \$1,065 a month from Pan American and \$1,070 from American Overseas Airlines for flying DC-4's. Both have been operating internationally for some time. Pan American flew during the war and as did American Export, which was acquired by American Airlines and became American Overseas.

Offers—TWA has been confronted with a new question and necessary therefore for negotiating a new contract. Last fall it offered senior first pilots \$1,065 a month to fly on its International Division. ALPA countered with a request for increases in base for DC-4's piloting on the division, and asked shorter hours and a limit on mileage. These requests would bring the monthly pay for an eight-year first pilot flying 15 hours, evenly divided between day and night operation, to \$1,342.50 a month.

The carrier thinks this excessive, and hence has asked the pilots to work on its International Division at a monthly rate equal to their av-

erage monthly salary for the last six months. When pay for the operation finally has been decided on, adjustments will be made retroactive.

Discrimination Limited—Thus for the negotiations have not involved salaries to be paid for flying the Constellation, the Association not having indicated what its request will be in this regard.

TWA has received eight of these, and expects several more before this month is out. Since it was the first time to order the Constellation, it deems to use them in inaugurating scheduled flights to Paris, to which one flew last week on a proving flight. It also has C-54's, however, and presumably would start its ocean service with them if a pilot agreement for their operation is worked out before one is reached on the Constellation.

North Atlantic Routes Assailed by Trippe

Pan American Airways contended last week that CAB had failed to apply its area concept of international routes and thereby relegated PAA to a "still more uncompetitive position" with other U. S. and foreign flag carriers.

Seeking amendment of the board's North Atlantic decision—Pan American is the only one of the three international U. S. carriers, along with airlines—PAA President Juan T. Trippe urged removal of what he called "pen point restrictions."

Argument—International developments on tariffs and landing rights, Trippe told Examiner first J. Newman, combine with lack of an effective area policy to keep Pan American from furnishing its share of the competition held desirable by the Board.

He said there are indications that the United Kingdom, France, and Belgium may not grant unrestricted Fifth Freedom traffic to U. S. flag carriers, and that they will retain frequency or tariff control through the International Air Transport Association, thereby limiting trans-Atlantic traffic. He expressed doubt that U. S. flag commercial rights can be secured in all countries certified to PAA, explaining that is he on a competitive basis with foreign flag carriers, his company must be able to utilize the same ports of entry.

John C. Leslie, vice president of PAA's Atlantic Division, rammed lack of "flexibility" in PAA's certificate, which he said awarded the least attractive route from a tourist standpoint.

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Model 240 Delivery Expected by 1947

New Consolidated Vultee transport ordered by American is a faster revision of its Model 116.

Consolidated Vultee's Model 240, of which American Airlines has ordered 100 at a cost of about \$1,800,000, is expected to be flying this fall and ready for delivery in 1947, if not before.

Using conventional power plus exhaust jet-propulsion, it will be a more, faster, version of the Model 116 (Aviation News, July 31, 1945), which Convair has about ready to fly. It will have less wing area and slightly higher wing loading, and the fuselage will be of slightly smaller diameter than the 116, but will carry 40 passengers where the 116 was arranged for 30.

Competitive—This, says a spokesman for the manufacturer, is the result of changes made by American, which chose the plane for flights of less than 1,000 miles in the U. S., Mexico and Canada from designs submitted by as many bladders. Last summer American gave several aircraft companies specifications for a plane for short-haul flights, suggesting its fleet of DC-4's and DC-6's. Responses

came from Consolidated Vultee with the Model 110, Boeing with its Model 401-16, Curtiss-Wright with its Model CW-32, Douglas with the DC-4, and Martin with the Model 302 (Aviation News, Sept. 17, 1945). American asked cost and delivery estimates on 5, 20 or 100 units.

The order for 100 of the 240's—the designation derives from its two engines and 40 seats—is the largest single order, in number of places, yet announced by an airline. Construction work will start at once, and will have a headstart due to the fact that the 110 was almost ready to fly. Work on the 116 has ceased.

Jet Assist—Like the Republic Rambler, announced September 3, Convair's 240 will use a jet thrust from the exhaust to supplement conventional power, adding an estimated 30 mph. Where the 110's cruising speed was 275 mph, and top in excess of 300 mph, cruising speed of the 240 is expected to be about 350 mph, and maximum 350.

(The Rambler will be a four-engine 44-passenger plane with a 400 mph, cruising speed and 450-mph maximum. Pan American Airways has an unspecified number on order.)

Details of 240—Main loading door in the 301, which will have a low

Patterson Critical

Use of 70 percent of airline space on civilian transport—mainly flights from the West Coast to a "suitable solution" to the problem of moving military personnel, but the problem "ought to have been anticipated" before key men were released from the Air Transport Command, W. A. Patterson, president of United Air Lines, said recently in an interview at Boston.

Patterson said he was appalled that with the need for airline seats for Army and Navy men, and asserted that "it might be catastrophic to permit the transportation men left in ATC to handle such a transport problem."

What, will be at the front of the cabin. Hinged at the bottom, it will open outward and downward. Built-in steps will make the usual airport ramp unnecessary. A sliding canopy probably will be used to protect passengers from the weather and guide them directly to the entrance.

Reversible pitch propellers will permit the plane to be taxied under an airport canopy, then backed away to operating position when loaded. Landing gear will be dual, bicycle, with steerable nose wheel. Elimination of exhaust nozzles and vibration will be sought in the powerplant installations. Engines will be Pratt and Whitney R-2800's of over 3,000 hp each. Windows have been moved down in the low wing. Windows will be larger and placed in relation to the wings to give best visibility. A baggage rack just inside the door will permit passengers to handle their own baggage.

Gross weight of the plane will be about 34,000 lbs. It will carry a payload of 1,500 lbs.—representing 1,000 lbs. in addition to 50 passengers and their baggage—more than 500 miles.

Landing Rights Sought

Taco de Venezuela last week became the first Venezuelan airline to ask for landing rights in the U. S. Regular service is planned between Caracas and Miami. The company wants first-class and tourist fares a few days on between Caracas and Bogota, Colombia. Regular service between the two points will be furnished by Taco de Venezuela and Taco de Colombia.

TCA, BOAC Carry 1,400 Each Week

Trans-Atlantic air traffic between Canada and Great Britain has been established for the time being at 338 passengers each way weekly by each of the two government airlines, Trans-Canada Airlines and British Overseas Airways Corp.—a total of 1,400 seats.

TCA will use converted Lancaster bombers until its DC-4H transports, powered by Radio-Boyer Mercur engines, come off the production line at the government's Canadian Ltd. Montreal. BOAC is using converted Liberators until its six-engine Avianons are ready. Both lines expect to cut the present flying time of 15 hours between Montreal and London to 10 hours with the new aircraft.

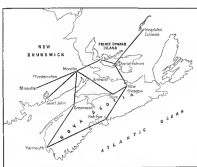
Routes—The agreement was completed late in December at Montreal, Bermuda, at a meeting attended by Canada, Great Britain and Newfoundland. Gander, Newfoundland, was designated as a stopover airport. The North Atlantic flight will be made via Goose Bay, Labrador, and Fredericton, Bedford, until Ellsworth Airport (London) is ready. BOAC will supply a shuttle service from Prestwick to London. Flares are set at 5775 each way. Alternate bad weather routes in the north go via Iceland, in the south via Bermuda and the Azores.

Canada also discussed with Bermuda authorities and officials of other British West Indian islands operation of TCA's proposed route to St. John's via the British West Indies.

CAB Designates Newark

CAB has designated Newark as co-terminal with New York on National Airlines' AM 31 and Northwest Airlines' 401. The Board found that "the exceptional size of the metropolitan area that will be served through the two airports requires that service to its two natural divisions be given stability by the designation of both points as co-terminals."

The Board also cited advantages that would accrue to the carriers through division of schedules between the terminals, such as elimination of air traffic control delays due to airport congestion at New York, and the fact that Newark will be closer to the greater part of metropolitan New York than Idlewild Airport, soon to become new base for NAL and NWA.



New Air Service in Canada May show service now rendered in Canada's three Atlantic Coast provinces by Maritime Central Airways, as result of recent action by Canadian Air Transport Board. New routes, and those in operation by the line since December, 1944, are: Charlottetown-Summerville-Moncton-Frederton (Blacksburg Airport), Charlottetown-Magalloway Island, Moncton-St. John's, Moncton-Greenwood-Yarmouth-Halifax, Charlottetown-New Glasgow-Halifax, Moncton-Ashcroft-Truro-New Glasgow.

Eastern Canadian Line is Licensed

First new license to operate scheduled commercial air service in Canada has been granted Maritime Central Airways Ltd., St. John, N. S., by Canadian Air Transport Board. Maritime Central has been operating since 1941 in Canada's three Atlantic Coast provinces, and CABT confirmed its existing five routes and granted six additional, all serving that area.

Blockading of St. John showed that air travel, necessary there due to geographic conditions, brings a vast time saving over surface transportation. For example, 11½ hours are required to make a rail and boat trip from Charlottetown to New Glasgow that can be made by 35 minutes by air. Flying saves 8 hrs. and 40 min. between St. John and Halifax.

Charges—The Board felt that Maritime Central's approximate charge of 6 cents a mile was not excessive when compared with surface transport rates, considering the savings in time and distance.

Plane Hire Service—The Board later granted Leavens Bros. Air

Service Ltd. of Toronto a license for scheduled air service between Leamington, Ont., and Prince Island in Lake Erie. Actually the service has been in operation more than five years, and is especially needed in the winter to bring mail and supplies to the island when ice cuts off water communication.

CABT reported in a year-end review that of 25 applicants for regular scheduled routes, two forms had been issued, one is ready to be issued, and 19 are pending. Hearings will be held in mid-January at Vancouver for three applicants.

Survey—The Board shortly will make a survey of Canada's economic potential as it relates to air transportation.

Albany, N. Y., Expansion

The Albany, N. Y., Common Council has authorized expenditure of \$27,500 to buy land and \$9,000 to clear it in preparation for Albany's \$1,000,000 proposed airport expansion program. The city proposes to raise \$20,000 of the \$27,500 by bond issue, making up the rest from current revenue. Of the other amount, \$8,000 would be obtained by bond issue.



Verification on Model 116—Consolidated Vultee Aircraft Corp. has called this two-engine 40-passenger transport, of which it will build 100 for American Airlines, the Model 240. Actually the ship is a new version of the Model 110. One of the most notable changes is in the main entrance, which in the 110 was at rear, with passengers using a collapsible stairway under the tail. Now it will be just back of the pilot's compartment. Passengers will put their baggage in a rack at their entry. This gives more space for seats in the rear of the fuselage next to the stewardess' buffet. The drawing shows passengers boarding under an airport canopy.

State and Federal Regulation

THE NATIONAL ASSOCIATION OF RAILROAD AND UTILITY COMMISSIONERS, which at one time appeared ready to compromise its contention that the states should have full right to regulate all intrastate commerce within their borders, whether on an intrastate carrier or a segment of an interstate route, has reaffirmed and strengthened its original stand.

Nevertheless, the airlines are confident that as the year starts they are closer than ever to their goal of exclusive Federal control of common air carriers in interstate commerce.

Little known is the fact that the executive committee of the Commissioners' association last March adopted a resolution favoring legislation reserving to the states exclusive economic regulation of intrastate air carriers only, "leaving to exclusive Federal regulation all other air carriage."

Subsequent developments in Congress led to reconsideration, and the committee last July voted in favor of a return by the Association to its earlier position.

This was done at an Association meeting last month at Miami, through expression of "unalterable opposition" to any Federal legislation destroying or interfering with state rights to regulate "rates and services of air carriers operating in intrastate commerce."

In what is regarded in aviation circles as a new move the organization voted in favor of legislation "to preserve to the states the right to provide economic regulation of local air commerce."

The Commissioners also directed their committee on legislation to continue its study of uniform state legislation providing for economic regulation of interstate air commerce.

The committee does not consider as a setback the fact that the uniform state regulatory bill passed in only three states last year, with exemptions of interstate air carriers in each.

And with only a few legislatures convening this year, the airlines can have no doubt that the Association will press to the limit for action in the states in 1943. The railroad's entire legislative history shows that such is their method.

Air Transportation's New Era

TO PENNSYLVANIA-CENTRAL AIRLINES goes the distinction of starting commercial air transportation's new era, in which four-engine equipment will largely supplant twin-engine on long-haul domestic routes. Foreword to this chapter was written by Transcontinental and Western Air's Stratton, but PCA on January 15 will place in service the first fully converted C-54 of a large number to be flying the nation's airways on most lines before the year is out.

The first phase, due for delivery by the Glenn L. Martin Co. today, will go into regular service on the Norfolk-Washington-Chicago flight after a checkover in the airline's maintenance shop and "courtesy hops" at Washington, Pittsburgh, Cleveland and Chicago, and possibly New York and Detroit. PCA expects it to shorten flight

time between Chicago and Washington from the present four hours and twenty minutes to three hours and twenty-five minutes.

Other lines will follow closely. Next Martin-converted C-54 probably will go either to TWA or Eastern Air Lines. Fourteen carriers have conversion orders at the Martin plant, where the delivery schedule is to reach one a day by the end of this month. Martin officials estimate that the company has enough conversion business to last through the year.

This ambitious program, augmented by similar though not as extensive work at Douglas and Republic, will speed the day when the public will find four-engine air travel the rule, rather than the exception, on long distance routes in, as well as out of the country.

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Collins AN/ARC-2 Autocue transmitter-receiver

The AN/ARC-2 Autocue transmitter-receiver was designed and built by Collins for two place and larger military aircraft. It is an example of the experience, design ingenuity and manufacturing skill also available, in the Collins organization, to commercial users of communication equipment.

Transmitter, receiver and dynamotor are all contained in the same case. The weight and space requirement of the AN/ARC-2 is considerably less than that of the equipment it replaces. Any one of eight pre-tuned channels is immediately and automatically available by means of the Collins Autocue, operated either at the main panel or by remote control. The transmitter and receiver operate on the same frequency and are tuned simultaneously by a single set of controls.

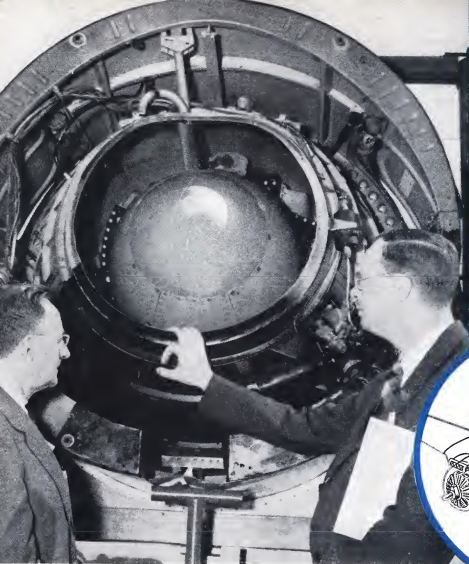
This equipment, including its Autocue mechanism, functions reliably at all temperatures from -58° to +140° F., at all altitudes from sea level to 40,000 feet, and all conditions of humidity up to saturation.

The Collins organization specializes in fulfilling exacting requirements. We will welcome an opportunity to make recommendations regarding your needs in the field of radio communication equipment. Collins Radio Company, Cedar Rapids, Iowa; 11 West 42nd Street, New York 18, N. Y.



IN RADIO COMMUNICATIONS, IT'S...





POWER *Plus* - - - ON THE FIREBALL

—and double trouble for an opponent! The Navy Fireball has two engines—one a conventional reciprocating engine, the other a G-E gas turbine. Here, R. G. Standerwick and D. F. Warner, G-E engineers in charge of the development of this turbine, the I-16, are inspecting a mockup of it. As can be seen in the diagram, the turbine is located behind the pilot, and receives air through ducts in the leading edges of the wings. It uses the same fuel as the reciprocating engine. This combination of engines means greater maneuverability, greater climbing speeds, and a greater margin of safety in combat—it's a real balance of power.

Gas-turbine research and development, for which General Electric is especially well fitted, are being continued now, looking to applications on commercial aircraft. The Fireball installation marks a step forward in the trend toward planes with a combination jet and propeller drive. At G-E flight-test headquarters work is being done on several types of aircraft gas turbines, and any information we can give you about this equipment is available to you at any time.

Apparatus Department, General Electric Company, Schenectady 5, N. Y.



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